



Town of Stowe Electric Department 2019 Tier 3 Annual Plan

Background

Pursuant to the Vermont Public Utility Commission (“PUC”) Order in Docket 8550, the Town of Stowe Electric Department (“Stowe”) submits the following Renewable Energy Standard (“RES”) Tier 3 informational filing. Established following the passage of Act 56 in 2015 and codified in 30 V.S.A. § 8005(a), the RES requires that electric distribution utilities (“DU”) demonstrate ownership of stipulated amounts of renewable energy within their power supply portfolios beginning in 2017. These annual targets are divided into categories for overall renewability (“Tier 1”), distributed renewable resources located sited in Vermont (“Tier 2”), and an energy transformation category (“Tier 3”). The purpose of this Annual Plan is to explain how Stowe plans to meet its Tier 3 target for 2019.

Tier 3 Target for 2019

Distribution utilities may satisfy their Tier 3 requirements through either additional Tier 2 qualifying distributed renewable generation credits in excess of the utility’s annual requirement, by implementing energy transformation projects, or by paying an Alternative Compliance Payment (“ACP”). The statute also included a provision that stated, “in the case of a provider that is a municipal electric utility serving no more than 6,000 customers, the required amount shall be two percent of the provider’s annual retail sales beginning on January 1, 2019.”¹ Per this provision, this document serves as Stowe’s first Tier 3 annual plan.

Stowe’s retail sales are forecasted to be 76,517 MWh in 2019 and there is relatively little anticipated future load growth. As such, Stowe’s Tier 3 requirement is approximately 1,530 MWh for the 2019 program year. Stowe expects to have an excess of Tier 2 qualifying credits which would be eligible for 2019 T3 compliance due in part to banked RECs from the 2017 and 2018 compliance years. However, it is the utility’s intention to meet its entire 2019 requirement through energy transformation projects.

¹ 30 V.S.A. § 8005(a)(3)(B)

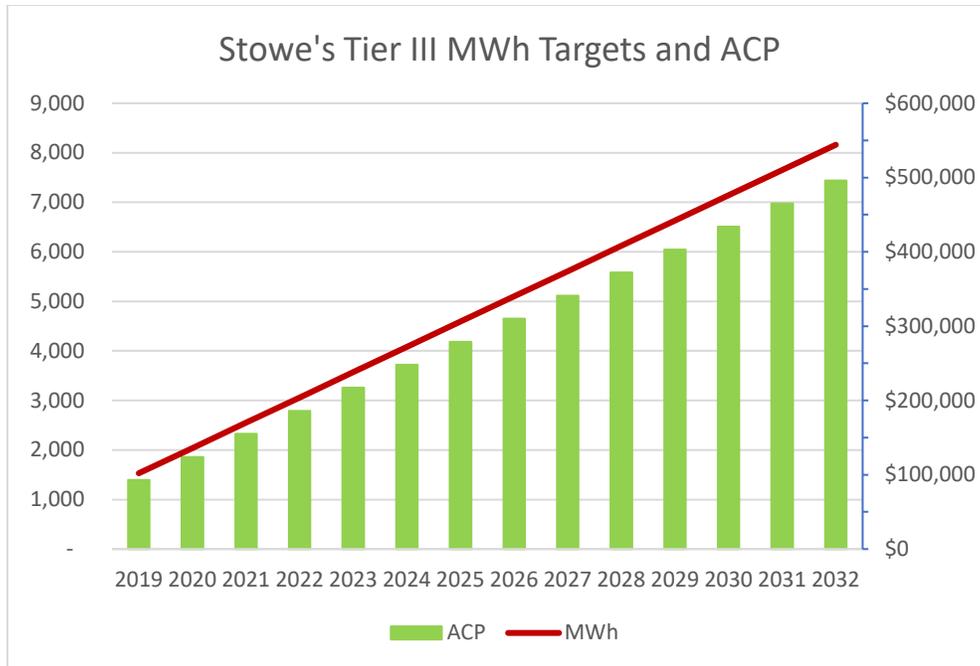


Figure 1 Projected Stowe Electric Tier 3 MWh Targets and ACP

When a DU's annual Tier 3 strategy includes the implementation of an energy transformation project, the annual plan must provide certain information:

- A description of the energy transformation projects planned for the program year and anticipated number of participants
- How the DU will ensure that all ratepayers have an equitable opportunity to participate in, and benefit from, energy transformation projects regardless of rate class or income level
- A description of collaborative efforts with other energy service providers in the delivery of these programs, or an explanation of why it is most cost-effective for the utility to provide the program alone, or that there is no other entity with the capability to deliver the service
- A description of best management practices for demand management when implementing projects that are likely to increase electricity consumption, as well as strategies for encouraging the installation of technologies in buildings that meet minimum energy performance standards, and strategies for customer education, outreach, and marketing.

Benefits gained from 2-year exemption

Stowe took the opportunity during its exemption from the 2017 and 2018 Tier 3 compliance years to take note of lessons learned by other utilities during this period. These included some of the difficulties and advantages behind certain types of projects and program design schemes.

DU savings claims raised questions related to eligibility and implementation of weatherization and battery storage projects. Stowe's customers could potentially benefit from these projects but these outstanding questions raise concerns about investing utility customer dollars which may not help Stowe achieve its Tier 3 targets.

Stowe kept these lessons in mind when crafting its 2019 Annual Plan in order to ensure economic efficiency when allocating utility funds towards its programs and to maximize the customer benefit.

Program Offerings

Stowe designed its 2019 Annual Plan offerings to be responsive to customer inquiries. Staff have had many conversations with customers who have expressed interest in cold climate heat pumps and electric vehicles. As such, both are featured in this plan. Stowe also included an electric vehicle charging station program initiated in 2015 and concluded in 2016.²

Cold Climate Heat Pump Rebates

MWh per Unit	2019 Forecasted Units	Forecasted Tier 3 MWh Savings	% of 2019 T3 Goal
25	42	1066	70%

Stowe will be offering a direct rebate incentive for all participating customers that purchase and install a cold-climate heat pump (“ccHP”). The total incentive amount will be \$575 per individual unit. Stowe decided to incorporate ccHPs into its first annual plan due to a series of factors. One such consideration was the Comprehensive Energy Plan which established an ambitious goal of 35,000 ccHP installed in Vermont by 2025. And as stated above, Stowe has received numerous customer inquiries into a potential ccHP program. Beyond the benefits of reducing fossil fuel use and meeting the request of our customers, Stowe recognized ccHPs as an opportunity to partner with Efficiency Vermont (“EVT”) to leverage the momentum their organization already created in this space to further promote the technology and encourage adoption among Vermonters. EVT’s program capabilities and maintenance of contractors and supply channel relations helps to ensure highest efficiency and least-cost for Stowe Electric customers.

Stowe also recognized the difficulties other DUs faced when incorporating ccHP programs into prior Tier 3 annual plans. In previous program years, Vermont DUs had to design their ccHP programs to reflect that they would not be able to claim 100% of the savings from each unit as EVT had also been operating a direct customer rebate program funded by its thermal energy and process fuels (“TEPF”) programs. An additional complication came from a study commissioned by the Department of Public Service. This study utilized actual usage data from units in Vermont and discovered they were not resulting in the level of fossil fuel reductions and customer benefit that had been initially anticipated. As a result, the Tier 3 TAG categorization reduced the pre-approved savings claim for each unit. It also identified a need for effective education campaigns for Vermonters who install ccHPs.

Though EVT later elected to withdraw its TEPF program funds from its ccHP incentives, EVT is still funding an upstream incentive for distributors to only supply products suitable for Vermont. This obviated the need for credit sharing and DUs are now able to claim 100% of the savings from each unit installed through their 2019 Tier 3 programs.

Stowe intentionally designed its incentive to offer its customers a rebate similar to what they would have received if they had participated in EVT’s earlier ccHP program. Stowe also elected to engage in a

² 30 V.S.A. § 8005(a)(3)(C)(i) specifies that an energy transformation that commenced after January 1, 2015 is eligible to qualify towards a utility’s Tier 3 targets.

collaborative effort with EVT to ensure maximum benefit for their shared customers. The organizations have met several times to identify ways that they can work together to make use of Stowe’s relationship and direct communication with its customers as well as EVT’s technical expertise. In light of the recent DPS study, we both recognize the need to educate participating customers how to make the best use of their ccHP. Stowe and EVT will both market ccHP technology, the program, and best practices to customers through their existing marketing platforms and provide customer support for general inquiries about the program. Stowe staff will also provide a level of technical assistance to customers who have participated or are considering participating while forwarding on in-depth technical questions to EVT staff with more specific training and knowledge. The roles of both entities are further detailed below.

Town of Stowe Electric	Efficiency Vermont
<ul style="list-style-type: none"> • Marketing Paths <ul style="list-style-type: none"> ○ Online (website, Front Porch Forum, social media) ○ Bill stuffers and joint mailers ○ Local relationships (local media, town permitting review, local building contractors) • Customer support, assisted by EVT when necessary • Inform participating customers of benefits from residential TOU/CPP • Verification of installation and delivery of incentive 	<ul style="list-style-type: none"> • Marketing Paths <ul style="list-style-type: none"> ○ Website ○ Joint mailers ○ Customer support, direct and referred by Stowe staff • Existing network of certified installers and distributors • Capture install data

Electric Vehicle Incentives

Technology	MWh per Unit	2019 Forecasted Units	Forecasted Tier 3 MWh Savings
All Electric Vehicle	29	7	206
Plug-in Hybrid Vehicle	16	11	181
% of 2019 T3 Goal			25%

The Comprehensive Energy Plan determined that nearly 50% of Vermont’s greenhouse gas emissions are attributable to transportation. Electric vehicles have garnered considerable attention in recent years but this interest has not yet resulted in wide-spread adoption. Though sales of all-electric vehicles (“AEVs”) and plug-in hybrid vehicles (“PHVs”) have been steadily increasing in Vermont in part due to their lower operating and maintenance cost, the upfront costs remain a barrier to adoption for many Vermonters.

Stowe will also be offering a rebate for customers to purchase an electric vehicle (“EV”). Customers that choose to purchase an all-electric vehicle (“AEV”) will be eligible for an \$850 incentive or a \$450

incentive for the purchase of a plug-in hybrid vehicle (“PHV”). Low-income customers who participate will be eligible for an additional \$250 incentive towards either option.³

Customers interested in the program will be directed to existing EV resources such as Drive Electric Vermont’s website which provides a comparison of vehicle models available in Vermont, US Department of Energy tools that calculate the cost of operating an EV and estimate the greenhouse gas emissions per EV mile driven, and other tools that will allow customers to learn the potential impacts of transitioning to an EV. Stowe will also inform eligible customers of its voluntary Residential TOU/Critical Peak Pricing rate in order to encourage charging during off-peak periods and save money on their electric bills.

Electric Vehicle Charging Stations

Technology	Unit MWh value	2019 Forecasted Units	Forecasted Tier 3 MWh Savings
Level 2 Public EVSE	11	5	53
Level 2 Workplace EVSE	15	1	15
DC Fast Public EVSE	15	1	15
% of 2019 Tier 3 Goal			5%

In 2016, Stowe completed a program launched in 2015 to incentivize the installation of electric vehicle supply equipment (“EVSE” or “charging stations”) for public use. Stowe enlisted commercial property owners to host the charging stations and make them available to the customers, employees, and the general public. The intention was to leverage the town’s tourism reputation to establish Stowe as a haven for tourists with EVs and thereby encourage more EV usage.

The program received funding support from VLITE and was designed and implemented with the help of Vermont Energy Investment Corporation (“VEIC”) staff with expertise in transportation efficiency. The program was run with minimal cost to Stowe in the form of in-kind contributions, allowed property owners to offer EVSE service with limited up-front cost, and also to leverage outside proficiencies to ensure the greatest benefit. Through this program, Stowe installed 6 Level 2 charging stations and 1 DC fast charging station for a total of 10 publicly available stations.

³ As per PUC Order in Docket 8550 dated June 28, 2016, “A low-income customer shall be defined as a customer whose household income is at or below 80% of Vermont statewide median household income.”

Total Tier 3 Program Summary

Program	Forecasted MWh Savings	Incentive Per Unit	Forecasted Program Incentive
Cold Climate Heat Pump	1066	\$ 575.00	\$ 24,150.00
All Electric Vehicle	203	\$ 850.00	\$ 5,950.00
Plug-in Hybrid Vehicle	181	\$ 450.00	\$ 4,950.00
Level 2 Public EVSE*	55		
Level 2 Workplace EVSE*	15		
DC Fast Public EVSE*	15		
Total Forecasted Savings	1535		
Total Incentive Cost		\$ 35,050.00	
Total 2019 Admin Cost		\$ 13,565.92	
Total Project Cost		\$ 48,615.92	

* Funded using grant proceeds

Other Statutory Considerations

Equitable Opportunity

The statute requires that Vermont's RES program be operated in such a manner to ensure that all electric ratepayers have an equitable opportunity to participate and benefit from energy transformation programs that are implemented to meet Tier 3 goals.

Stowe's ccHP program will be made available to all rate classes but we anticipate that we will see the highest level of adoption from residential customers. We also expect that many of our small commercial customers will participate as well. Similarly, our public EVSE program is available to all customers and was only made possible through the participation of several commercial property owners in Stowe. Finally, our EV program provides a specific additional incentive for low-income customers to encourage adoption despite the considerable up-front cost. Stowe will also track incomes and rate classes of all participants to inform future iterations of its Tier 3 projects.

Collaboration and Exclusive Delivery

Stowe's positive experience with its public EVSE program has greatly influenced the philosophy with which it will design future Tier 3 programs. VEIC's subject matter expertise helped to ensure that the program would make the largest impact and VLITE's funding support meant that the charging stations were installed with minimal up-front cost to our commercial property partners. As such, Stowe saw considerable benefit potential from partnering with Efficiency Vermont in the design and delivery of Stowe's cold climate heat pump program. It will help to ensure the dissemination of best available information regarding ccHPs, such as identifying the best candidates for participation and best practices for operation, and will also allow Stowe to tap in to EVT's existing network of certified installers.

Stowe is not aware of any energy service providers who are currently offering vehicle incentives in its service territory. This may be due largely to its small size and lack of auto-dealerships. Stowe also believes that Vermont's distribution utilities are uniquely suited to promote transportation electrification among their customers while also accounting for the additional demand on the electric grid.

Best Management Practices, Outreach, and Marketing

Stowe's 2019 Tier 3 program offerings are likely to increase consumption. As the servicing electric utility, Stowe is acutely aware of the potential impacts from the increased demand. Our customer service staff have received phone calls from frustrated customers who did not understand the net impact to their energy bills when they installed a ccHP to offset some of their existing heating needs. Stowe and EVT have both committed to providing thorough information on net energy cost savings to customers who are interested in our ccHP program. Partnering with EVT has also presented an opportunity to make use of their existing network of certified installers who have been trained to identify homes that meet building performance standards and are therefore suitable candidates for ccHP.

There are also potential cost savings for customers who participate in the ccHP or EV programs and elect to switch to Stowe's voluntary Residential TOU/Critical Peak Pricing rate. As the servicing electric utility, Stowe can play a crucial role to ensure that program participants receive the best available information about these technologies. These efforts will be rolled into Stowe's Tier 3 marketing efforts, including bill-stuffers, online-campaigns, and press releases.